

REMARKS/ARGUMENTS

Applicants would like to thank the examiner for the careful consideration given the present application. By the present amendment, claims 11-14 remain in the application while claim 11 has been amended. New dependent claims 15 and 16 have been added by amendment. Applicants respectfully request reconsideration and allowance.

Correction of Obvious Error in Specification

Applicants note that an error was discovered in paragraph [0062] of the specification. In particular, paragraph [0062] states that the “frequency of sound = frame frequency / (2×n)” and gives the specific example: “60/(2×3)=about 90 Hz”. Since $60/(2 \times 3)$ does not actually equal 90, these equations clearly contain an error. According to MPEP 2163.07(II):

An amendment to correct an obvious error does not constitute new matter where one skilled in the art would not only recognize the existence of error in the specification, but also the appropriate correction. In re Odd, 443 F.2d 1200, 170 USPQ 268 (CCPA 1971).

It would be clear to one of ordinary skill in the art, not only that the recited equations contain an error (since they do not equate), but also that the error involves a simple displacement of the parentheses. As one of ordinary skill in the art will readily appreciate, the equations should actually read “frequency of sound = (frame frequency/2)×n” and “(60/2)×3=about 90 Hz”, respectively. Accordingly, paragraph [0062] has been amended appropriately to move the respective parenthesis to their correct locations. Since the amendment involves only the

correction of an obvious error that can be readily understood by one of ordinary skill in the art, no new matter has been added.

Claim Rejections - 35 USC § 102

Claim 11 was rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Application Publication No. 2002/0019249 to Kashu et al. (hereinafter “Kashu”). As described above, claim 11 has been amended and for the following reasons, the rejection is respectfully traversed.

Regarding amended claim 11, Kashu does not teach “when the mobile terminal apparatus is *in a voice communication mode or a voice playback mode*, the display portion driving control unit *prevents audible sound* from being generated by the display portion *while displaying an image* by changing the driving operation of the display portion,” as now required. As explained in the present specification in paragraphs [0014] to [0022] it is known that display panels of mobile terminal apparatuses can act as loudspeakers and thereby produce undesirable noise as a result of the display driving waveform when displaying images. The problem can be reduced or eliminated by lowering the driving frequency of the display so that the resulting noise is at a frequency inaudible to humans, but the resulting display quality is often unsatisfactory. The inventors of the present application discovered that the noise is a particular problem when the apparatus is in a voice mode, such that the user is more likely to notice the noise. Accordingly, the claimed invention solves the above problem by changing the display driving operation (such as by reducing the frequency) when the apparatus is in a voice mode. When the apparatus is not

in a voice mode, the driving operation can be operated to produce optimal image quality, since the noise is less likely to be noticed by the user.

As pointed out by the Examiner, Kashu teaches turning the LCD 18 and/or the LCD backlight 19 ON/OFF based on the detection of a voice signal. However, while turning OFF the display might prevent audible sound from being produced by the display, the display cannot be turned off while still “displaying an image” as required by claim 11. Further, turning off the backlight would not prevent audible sound from being generated by the display portion.

For all of the above reasons, the prior art reference fails to teach all the limitations in claim 11. Accordingly, it is respectfully requested that the rejection of claim 11 be withdrawn.

Claim Rejections - 35 USC § 103

Claims 12 and 14 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kashu in view of U.S. Patent No. 6,211,854 to Fujiyoshi. As explained above, claim 11 has been amended and for the following reasons the rejection is respectfully traversed.

As described above with regard to claim 11, from which claims 12 and 14 depend, Kashu does not teach “when the mobile terminal apparatus is in a voice communication mode or a voice playback mode, the display portion driving control unit prevents audible sound from being generated by the display portion *while displaying an image* by changing the driving operation of the display portion,” as required. Further, Fujiyoshi does not teach this limitation. Although Fujiyoshi does teach switching between two different driving modes depending on the image type (moving or still), Fujiyoshi does not teach changing the driving operation of the display based on a voice mode, as claimed. Accordingly, even if Kashu and Fujiyoshi were combined,

every limitation would not be taught. Further, neither Kashu nor Fujiyoshi is concerned with the issue of audible sound being generated by the display. Accordingly, it would not have been obvious to modify the teachings of Kashu and Fujiyoshi to arrive at the claimed invention.

Further, regarding amended claim 11, Kashu in Fujiyoshi does not teach, suggest or otherwise render obvious that “the interlaced scanning is performed for every predetermined number of lines, while *a polarity of an applied voltage is inverted each time the display portion is scanned from its top to its bottom,*” as now required. As described, for example, in paragraph [0059] of the present specification:

In the n-th frame shown in Fig. 4(a), the first line, the fourth line, the seventh line, ... are scanned with positive polarity. After that, the polarity is inverted, and the second line, the fifth line, the eighth line, ... are scanned with negative polarity. Then, the polarity is inverted again, the third line, the sixth line, ... are scanned with positive polarity.

As described thereafter, the polarity of the applied voltage continues to be changed each time the display portion is scanned. Although Fujiyoshi does describe separating one frame into a plurality of fields in order to perform interlaced scanning, there is no disclosure in Fujiyoshi of inverting the polarity each time the display is scanned for each field. Further nothing in Kashu or Fujiyoshi suggests or otherwise renders obvious the polarity inversion feature of the claimed interlace interlaced scanning technique.

Therefore, as the prior art references fail to render all the limitations in claim 11 obvious, it is respectfully requested that the rejection of dependent claims 12 and 14 be withdrawn.

Claim 13 was rejected under 35 U.S.C. 103(a) as being unpatentable over Kashu in view of Fujiyoshi and further in view of U.S. Patent No. 6,809,774 to Yamazaki (hereinafter

“Yamazaki”). As described above, claim 11 has been amended, and for the following reasons the rejection is respectfully traversed.

As described above with regard to claim 11, from which claim 13 depends, Kashu in view of Fujiyoshi does not render obvious “when the mobile terminal apparatus is in a voice communication mode or a voice playback mode, the display portion driving control unit prevents audible sound from being generated by the display portion *while displaying an image* by changing the driving operation of the display portion,” as required. Further, Yamazaki does not cure this deficiency of Kashu and Fujiyoshi. Accordingly, even if Kashu, Fujiyoshi and Yamazaki were combined, every limitation would not be taught, suggested or otherwise rendered obvious. Therefore, as the prior art references fail to render all the limitations in claim 11 obvious, it is respectfully requested that the rejection of dependent claim 13 be withdrawn.

New Claims

Newly added dependent claims 15 and 16 are patentable for at least the reasons described above with regard to claim 11, from which they depend.

In consideration of the foregoing analysis, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

Appl. No. 10/576,550
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If there are any fees resulting from this communication, please charge same to our
Deposit Account No. 16-0820, our Order No.: 40221.

Respectfully submitted,

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